

Opening Doors: (in)Equity Audits in Accounting Education

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ABSTRACT: An equity audit is a data-driven approach to identify and mitigate inequitable student achievement outcomes. Equity audits are a tool K–12 teachers and administrators use to incorporate data into decision-making, identify achievement gaps, and prompt remedial action. The working hypothesis behind equity audits is the existence of a subset of students who could meet high academic standards and produce exceptional work but are prevented from doing so by current resource allocation and andragogic (i.e., adult education) practice. This learning strategy presents a simple, four-step process to address inequitable student outcomes: find a goal, gather data, uncover root causes, and enact change.

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I. INTRODUCTION

An equity audit is a data-driven approach to identify and mitigate inequitable student achievement outcomes. Our school is a large, public, urban university with an open-access mission. The majority of students in our accounting program are first-generation, nontraditional, and/or under-represented minorities.¹ Over the last decade, our accounting faculty observed increasing racial diversity among entering students without a commensurate rise in diverse graduates. This prompted a reassessment of policies, procedures, and practices that might have an unintended and disproportionate impact on student outcomes. Ultimately, our concerns reduce to one critical question: do we believe the students who leave our program due to poor performance could have succeeded under different policies? This question prompted a holistic rethink of our approach to accounting education. We are not able to ensure equal *achievement* for all accounting students, but we can address barriers that drive inequity. This learning strategy presents applied guidance for accounting faculty interested in addressing inequity throughout the profession.

Differential outcomes within our department inspired us to adapt and apply equity audit practices developed for K–12 education. As background, the working hypothesis behind equity audits is the existence of a subset of students who would be able to meet high academic standards but are prevented from doing so by current resource allocation and pedagogic² practice (Skrla, Scheurich, Garcia, and Nolly 2004). Equity audits reframe focus from external factors that cannot be changed (such as students' natural variation in material resources, external support, prerequisite knowledge, or innate ability) toward internal policies and procedures that educators can control (Brown 2010; Green 2017; Dodman

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¹ We acknowledge significant, important, and ongoing work performed to increase awareness of accounting as a viable degree option for under-represented minorities. Significant cultural barriers persist that may discourage or prevent under-represented minority students from the accounting profession (we highly recommend the work of Theresa Hammond; Hammond 1997, 2003). This paper hopes to complement these findings with a focus on removing barriers that disproportionately impact under-represented minority students from graduating with an accounting degree.

² We use the term pedagogy when discussing the historical context of equity audits because the K–12 literature focuses on the education of children. Our work expands that framework to adult education. Therefore, where appropriate, we use andragogy to describe the practice of teaching adults.

et al. 2019). The point of an equity audit is not to deny uncontrollable differences but instead to identify changes to better support student achievement at all levels.

We use equity audit practices as a prompt to gather program-level data, scrutinize program outcomes, and identify tools to help remediate identified achievement gaps (Albring and Elder 2020). We present our experience as a simple, four-step strategy. First, define a goal. Second, find data to facilitate shared understanding. Third, disaggregate achievement data to identify root causes. Finally, implement identified strategies and continue program-level data analysis. Our equity audit work removed barriers to student success without lowering academic standards. Other schools may tackle different challenges, but the strategic data-driven approach presented herein is intentionally malleable to accommodate different contexts.

Emerging research suggests academic disruptions caused by the COVID-19 pandemic have a disparate impact on under-represented minority students (e.g., Rodríguez-Planas 2022; Dorn, Hancock, Sarakatsannis, and Viruleg 2020). Results from our initial equity audit efforts reduced the “D,” “F,” or withdraw (hereafter DFW) rate in the first term of Intermediate Accounting by 25 percent and the first-week drop rate in the course by 30 percent. These efforts improved outcomes for all student groups, with disproportionately positive impacts for Hispanic/Latino, Black/African American, and first-generation college students (DFW down 27 percent, 18 percent, and 8 percent, respectively).

We now apply a similar equity audit approach to Introductory Accounting and our second course in Intermediate Accounting and have been asked to apply similar methods at the school of business and university levels. Equity audits are malleable and iterative. Audit efforts and solutions will likely differ materially across classrooms, programs, and universities. Successful efforts continue to adapt, improve, measure, and evolve. Problems that seem overwhelming might become actionable in small components. New solutions may emerge through continued effort and successful coalition building. This is the ultimate point of an equity audit: find a goal, gather data, uncover root causes, and enact change.

Problems identified through equity audit practice can span instructors, courses, programs, and academic units. Solutions often require moving beyond what “I” can do in my classroom to consider what “we” can do together as program leaders. We do not argue for a specific action within a single course. Nor do we aim to introduce a specific intervention, validate theory, or present data. Student success is complex, and student needs are ever changing. One-time and one-size-fits-all solutions will not prompt ongoing success. Instead, we hope our experience will inspire accounting educator engagement around an iterative goal-setting cycle, data collection, problem identification, and corrective action.

Sections that follow describe the background of equity audits (Skrla et al. 2004), propose a conceptual expansion of these tools to fit higher education settings, and detail the practical steps we took when applying this approach at our university. We offer our approach to inspire and encourage other accounting programs to ask difficult questions and improve student success.

II. THEORETICAL DEVELOPMENT OF EQUITY AUDIT CONCEPTS

The equity audit literature argues teachers and administrators should understand the degree to which inequity is present in their schools (Scheurich and Skrla 2003; Skrla et al. 2004; Capper and Young 2015). Gaps in student performance are often attributed to unsolvable external factors. An equity audit aims to shift focus away from factors outside educators’ control and toward the school policies and practices that may cause or exacerbate identified gaps (Brown 2010; Green 2017; Dodman et al. 2019).

Equity audits are a tool to incorporate data into decision-making, identify achievement gaps, and prompt remedial action. Albring and Elder (2020) note a similar need for studies that measure accounting programs’ inputs, processes, and outputs. The data-driven approach to program improvement we describe herein provides an opportunity to formalize departmental performance metrics, align performance metrics across academic programs, and improve goal consistency between faculty and administration. Formalized metrics can also supplement fundraising efforts and accreditation reporting.³

Most studies of student success in accounting examine the effect of a specific intervention on task-level or course-level performance. Examples include the impact of various assessment practices (e.g., Abraham and Jones 2016; Elikai and Schuhmann 2010), incorporations of technology (e.g., Premuroso, Tong, and Beed 2011; Hornik and Thornburg 2010; Peng and Abdullah 2018), teaching practices (e.g., Coetzee and Schmulian 2012), psychological traits (e.g., Milliron 2008; Kealey, Holland, and Watson 2005; Schleifer and Dull 2009; Honn and Ugrin 2012), or learned skills (e.g., Butler, Church, King, and Spencer 2021; Miller and Stone 2009). These studies might suggest practical remediation to a specific issue identified through equity audit data analysis, but an equity audit has broader goals.

³ One example of possible accreditation application comes from Association to Advance Collegiate Schools of Business (AACSB) standards A1 (Accounting Academic Unit Mission, Impact, and Innovation) and 9 (Engagement and Societal Impact) (Association to Advance Collegiate Schools of Business (AACSB) 2022).

This section uses the [Skrla et al. \(2004\)](#) framework, included below as [Equation \(1\)](#), to introduce equity audit concepts from K–12 education. A concluding subsection adapts this equation for use by accounting educators.

$$\text{Achievement Equity} = \text{Teacher Quality Equity} + \text{Programmatic Equity} \quad (1)$$

Achievement Equity

Common strategic goals in K–12 include preventing students from falling behind or leaving an academic program prematurely (e.g., failure rates or dropout rates), ensuring students graduate from high school with a diploma (e.g., graduation rates), and adequately preparing students for continued success in higher education (e.g., SAT/American Collegiate Testing (ACT)/advanced placement (AP)/International Baccalaureate (IB) results) or a professional trade. Government regulation established the promotion of equitable student outcomes as a clear strategic goal and launched a standardized testing regime to measure progress ([Rhodes 2012](#); [Goldstein 2015](#); [Schneider 2018](#)). K–12 teachers and administrators often supplement standardized test results with measures that monitor the operational activities of a district, school, or classroom. Examples include data-driven assessment of school/district governance, classroom curriculum and instruction, workforce development, and student-specific supports ([Goldstein 2015](#); [Schneider 2018](#)).

This focus on strategy and data may not surprise accounting educators, particularly those well versed in higher education accreditation or management accounting topics like the balanced scorecard ([Kaplan and Norton 2001a, 2001b](#)). The point of an equity audit is not compliance with a set of predefined, standardized measures ([Green 2017](#)). The goal is a data-driven, program-wide, systemic change ([Skrla, McKenzie, and Scheurich 2009](#); [Dodman et al. 2019](#)). Common metrics may help benchmark against competitors, but users should feel empowered to select measures that best highlight achievement gaps and drive performance improvement. These measures may be considered the program key performance indicators. Similar to a professional setting, these indicators give everyone involved a centralized context, vocabulary, and clear directional goals.

Once achievement metrics are selected, they can be disaggregated to investigate possible sources of inequity within the larger population. Categorical variables typically included at the K–12 level include race/ethnicity, gender, parental education level, household income, geographic region, language, disability, age, or protected group status ([Lee and Shute 2010](#); [Mickelson, Bottia, and Lambert 2013](#)). Initial or preliminary audits can be performed with currently available data. Results may provide a proof of concept to prompt additional data access or collection, but even rough proxies for many equity concepts can provide the prompt necessary to drive change.

Teacher Quality Equity

One of the most significant findings from equity audits at the K–12 level is teacher quality’s impact on achievement equity. Research suggests a significant decline in student performance when elementary students have low-quality teachers in two successive academic years ([Sanders and Horn 1998](#); [Sanders, Wright, and Horn 1997](#); [Prince 2002](#)). Common proxies for teacher quality include years of teaching experience, advanced degrees held, subject matter expertise, peer or administrator evaluation, and the results of student or parent surveys ([Rowan, Correnti, and Miller 2002](#); [Rockoff 2004](#); [Rice 2003](#)). Many of these variables are drivers of a “value-added” approach to improving student outcomes within the K–12 education ([Goldstein 2015](#); [Schneider 2018](#)).

We understand that some educators would argue that individual teachers, especially “senior” teachers (senior by experience, degree, or status), have autonomy and often choose the highest-level classes within a school, and therefore, the school leadership does not have much control over this. This is precisely the point that this teacher quality dimension is intended to challenge. In our research and practice, we have worked with many schools that have challenged and subsequently changed their “seniority” assumptions about which teachers should (or are automatically entitled) to teach which classes and which students. Furthermore, the first step toward making such changes is getting an accurate picture of the current situation with respect to distribution of teacher quality indicators on a campus. ([Skrla et al. 2009](#), 33)

The quote above highlights two aspects of teacher quality equity with particular application to the accounting academy. First, accounting programs may not collect, compile, or analyze data necessary to measure teacher quality *and* assess its impact on student achievement. For example, prior research has shown that instructor expertise significantly impacts CPA exam performance ([Blaine, Perreault, and Zheng 2016](#)). Second, many longstanding teaching practices can perpetuate without scrutiny. The example of teacher autonomy based on status and experience has potential parallels to a university setting. Accounting programs may have excellent reasons for current staffing and teaching assignments or those assignments may result from a longtime scramble to cover required courses. The equity audit literature does not

propose a one-size-fits-all solution. It simply argues that the relationship between staffing decisions and achievement inequities should be measured, understood, and managed against other strategic goals.

Programmatic Equity

Programmatic equity assessments track the quality of various educational resources and programs to which students do or do not have access (Skrla et al. 2009; Brown 2010). Examples include the over-representation of African American males in special education (Artiles 1998; MacMillan and Reschly 1998; Losen and Orfield 2002), the under-representation of low-income and under-represented minority students within talented and gifted programs (Ford and Harmon 2001), a lack of access to bilingual education for students whose first language is not English (Li 2007; Cervantes-Soon et al. 2017), and the disproportionate discipline of African American and Latino males (Skiba et al. 2011; Shirley and Cornell 2012). The more profound concern behind the over- (under-) representation of students within remedial and special education (talented and gifted programs) is the need for students to be provided with appropriate pedagogical resources to ensure academic success. Students incorrectly tracked into (omitted from) remedial (advanced) coursework will likely fail to achieve what they could have under an appropriately calibrated accounting curriculum. These examples may seem to have little application to a university setting, but each prompts one to think differently about accounting education.

Reframed in a higher education context, parallels to a university setting begin to emerge. Accounting students need appropriate and equitable access to bridge coursework as they make their way through our programs. The impact of cultural differences on student achievement may be pronounced in a profession predominately white and male (e.g., Mnif Sellami and Cherif 2020; Adapa, Rindfleish, and Sheridan 2016; Didia and Flasher 2021; Almer, Harris, Higgs, and Rakestraw 2022). Accounting faculty discipline through penalties ranging from individually serious (e.g., accusations of plagiarism or cheating) to those which may have a significant cumulative impact (e.g., subjective deviations from syllabus expectations and penalties for late assignments).⁴ An equity audit can provide insight through the analysis of available data and investigation into related root causes.

Extensions for Use in Accounting Programs

We propose applying the findings from K–12 equity audits to accounting programs with two changes to increase impact—first, a shift in focus to emphasize removing sources of inequity. Second is the bifurcation of course-level and program-level programmatic inequity.

$$\text{Achievement Inequity} = \text{Instructor Quality Inequity} + \text{Course – Level Inequity} + \text{Programmatic Inequity} \quad (2)$$

Focusing on inequity emphasizes that an equity audit does not seek to ensure equal *achievement* for all accounting students. The profession is best served by high academic standards that identify students who produce exceptional work. Instead, we focus on practices that may negatively and disproportionately impact marginalized subsets of the student population. The working hypothesis behind equity audits is the existence of a subset of students who would be able to meet high academic standards and produce exceptional work but are prevented from doing so by current resource allocation and andragogic practice. Some of these practices are in place for good reason; others are simply unchallenged historical precedents. We argue that accounting programs' drivers of achievement inequity should be understood, documented, and mitigated when possible. We expect program conclusions to differ based on strategic focus and cost/benefit assessment.

Program-level sources of inequity are included because andragogic resources provided to accounting students are supplemental to their required coursework. Supplemental program-level resources might include mentoring, resume/interview prep, Beta Alpha Psi, National Association of Black Accountants (NABA), Association of Latino Professionals for America (ALPFA), or other professional meetings. These resources are essential for navigating the job market and a successful start to an accounting career. Accounting programs could reduce achievement inequity through equitable access to course-level and program-level resources.

Similar to Skrla et al. (2009), we do not claim that these are the only drivers of achievement inequity or even the predominant causes. Instead, we leverage the experience of K–12 educators to provide accounting academics interested in equity issues with a place to start. The following section describes applying equity audit techniques to an accounting program at a large, public, urban university with an open-access mission. The equity audit work described began as an effort to improve outcomes for under-represented minority students but resulted in a set of practices with broad benefits

⁴ See Feldman (2018) for a thought-provoking, and extremely helpful, overview of classroom practices that could be adapted to promote equitable outcomes. We found this book to be the single best resource for improving student outcomes.

for all students. Efforts are summarized within a simple, four-step process accounting educators can use to address inequitable student outcomes.

III. A FOUR-STEP APPROACH TO AUDITING PROGRAM-LEVEL ACADEMIC OUTCOMES

Step One: Define the Problem

An equity audit is not a prescribed list of policies to implement or a checklist of step-by-step instructions. Instead, it is a framework for asking questions and a prompt toward data-driven decision-making. [Table 1](#) includes questions we developed to apply the K–12 equity audit literature in our accounting program. Our particular effort sought to understand two issues in greater detail. First, why do students who declare an accounting major fail to complete an accounting degree? Second, why do under-represented minority students leave our program at a disproportionate rate? Other accounting programs may confront a different set of problems and opportunities. We provide detail on our experience below not as a rigid checklist for others to follow but as a rough template to be adapted across university settings.

Any audit is just an iterative process of questioning, data collection, and analysis. The exact steps in this process will differ by each university's systems, processes, and data access policies. Data needs will also differ based on the students served by the accounting department and the overarching goal behind the audit effort. Accounting programs have varying goals and access to data with variable scope and quality. Different programs will likely have access to different data and define success differently.⁵ However, the overarching need to iteratively develop data-driven solutions remains the same.

Step Two: Compile an Initial Dataset

After setting an agreed-upon goal, a population dataset must be compiled that includes (1) metrics for success; (2) variables defining demographics, including racial, ethnic, gender, age, disability, veteran, and socioeconomic status; (3) records representing the complete set of students who attempted to complete the defined objective; and (4) additional variables expected to correlate with inequitable outcomes. Due to privacy concerns around student information, this can be challenging to secure.

Not only do many administrators and academics need help understanding the degree to which inequity is present in their programs, but many also need to maintain the datasets necessary to investigate such questions at a basic level. An individual instructor would struggle to analyze their students' performance across disparate Excel spreadsheets and learning management system course shells. The analysis is even more challenging when extended across all the accounting program's instructors, courses, and terms covered.

When we began, our accounting department needed a centralized repository of student achievement data. We were also unsure how to request performance data maintained by other campus units or functions. [Exhibit 1](#) is an email message drafted to start a campus-wide conversation around finding an answer. We began with the associate dean for undergraduate education in our school of business, who referred us to the registrar's office and suggested we inquire about several other central campus functions. This series of cold call requests eventually connected to the Office of Institutional Research and Planning (OIRP), a campus function that seeks to collect, preserve, interpret, analyze, and disseminate information regarding our university's characteristics, activities, operations, and policies.

OIRP assigned our request a dedicated analyst able to explain how our university collects data, what systems store that data, and what data were available to faculty for analysis. It took multiple meetings over several weeks to build a shared understanding of what our project sought to accomplish and what was possible with university data and accompanying privacy constraints. We iteratively developed a series of custom reports that query available student demographic and performance data and merge data maintained in disparate systems across campus.

Our initial data collection process was long and winding. Eventually, it culminated in a set of data tables necessary for a preliminary analysis of student retention and degree completion across our accounting program. We defined members of our accounting program as any student with at least one term as a declared accounting major. We obtained enrollment status, degree(s) awarded, courses taken, course instructors, grades conferred, community college transfer credits, and demographic information for each student. A department's goals and data requirements may differ. The campus' systems and policies may complicate access to specific data. In our experience, clearly articulated project goals and collaboration with central campus data functions helped identify ways to aggregate or deidentify data to avoid privacy concerns.

⁵ Possible alternatives may include a need to understand why students declare an accounting major, why students fail to take/pass the CPA exam, why students fail to find an accounting position six months after graduation, etc.

TABLE 1
Mitigating Inequity

Panel A: Teacher Quality

Aspects	Questions to Consider	Selected Additional Resources
Adjunct versus Full Time	<ul style="list-style-type: none"> • Is the right instructor teaching this course (i.e., is this an upper division course requiring more professional real-world experience or a lower division course requiring an enthusiastic, well-established instructor to attract quality students)? • Is adjunct turnover impacting the student success outcomes? • Does professional experience matter for this course content? 	(Kirk and Spector 2009) (Hayter and Cahoy 2018) (Ellegood, Bernard Bracy, Sweeney, Duncan, and Burns 2019) (Franklin 2015)
Willingness	<ul style="list-style-type: none"> • Are instructors willing to experiment and make changes necessary to improve student equity outcomes? • Are instructors aware of minor changes' potential benefits and positive effects on student success? • Could schedules be modified to place willing instructors in required courses to improve equitable student outcomes? 	(Lombardi and Murray 2011) (Mayhew and Grunwald 2006)
Organization	<ul style="list-style-type: none"> • Is the instructor presenting course materials in an organized way to improve equitable outcomes? • Is the learning management system being used to optimize equitable student outcomes? 	(Munger, Ritchie, McAdam, and Nynka 2023)
Student Allyship	<ul style="list-style-type: none"> • Do students perceive that the instructor is actively supporting their success? • What opportunities exist to gather data on student perceptions of instructor allyship that are not captured in teaching evaluations? 	(Arminio, Yamanaka, Hassell-Goodman, Athanasiou, and Hess 2024)

Panel B: Course Quality (i.e., What Can “I” Do?)

Aspects	Questions to Consider	Selected Additional Resources
Course Content Focus	<ul style="list-style-type: none"> • Are the course assignments specific and focused on the most critical content for student mastery? • Should assignments be added, reduced, or modified to focus students on critical content? 	(D. Hermanson and H. Hermanson 2020) (Wells 2018) (Sanders and Willis 2009) (Shoulders and Hicks 2008) (Feldman 2018)
Grading	<ul style="list-style-type: none"> • Do extra credit points or minor assignments distract students from critical content? • Is feedback helpful in focusing students on critical content? 	
Prerequisite Courses	<ul style="list-style-type: none"> • Do prerequisite courses or knowledge encourage successful student outcomes specific to critical content? • Do all students begin the course with a foundational understanding of principles necessary to master critical concepts in this course? • What adjustments need to be made to ensure that everyone begins intellectually from the same starting point? 	(Rodriguez, Maksy, and Shahid 2021) (Sargent 2013) (Mangold, Shima, and Yang 2021)
Deadlines	<ul style="list-style-type: none"> • Do course deadlines allow students to learn and possibly make mistakes toward learning critical student outcomes? • Would the assignment benefit from extended or repeated deadlines? • Do hard deadlines prevent student engagement in critical content? 	(Miller and Schmidt 2021)

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TABLE 1 (continued)

Panel C: Program Quality (i.e., What Can “We” Do?)

Aspects	Questions to Consider	Selected Additional Resources
Extracurricular	<ul style="list-style-type: none"> Do the meetings, clubs, and noncourse presentations offered encourage equal access to all students? Are entrance fees creating a barrier to participation for students without the means to pay? Are there students who would benefit from programs that are not attending due to outside responsibilities? 	(Coombs 2022)
Professional Development	<ul style="list-style-type: none"> Would more students participate in development opportunities if they were embedded in course content across the program? Are there opportunities for programs or software that would allow a wider variety of students to develop professionally? Is there an effort to monitor students who fail to obtain a professional placement? Is there basic professional development training that could be embedded in course content successfully? 	(Rakow and Schwer 2021)
Flexibility	<ul style="list-style-type: none"> Are the course delivery options facilitating and encouraging equitable student access and success? Are students aware of all accessibility options, and are they encouraged to use those? 	(Verna 2020)

EXHIBIT 1

Email Request for Data

Hi [Dean of Undergraduate Students],

We’ve had some great conversations in the accounting department following the meeting with the deans earlier this month. Our group is really committed to making sure our program is (1) accessible to students from all backgrounds, (2) supportive of all students as they take courses, and (3) setting up all students for career success. However, we don’t really have the data to let us know how well we are accomplishing these goals and where the common points of failure are as students make their way through our program.

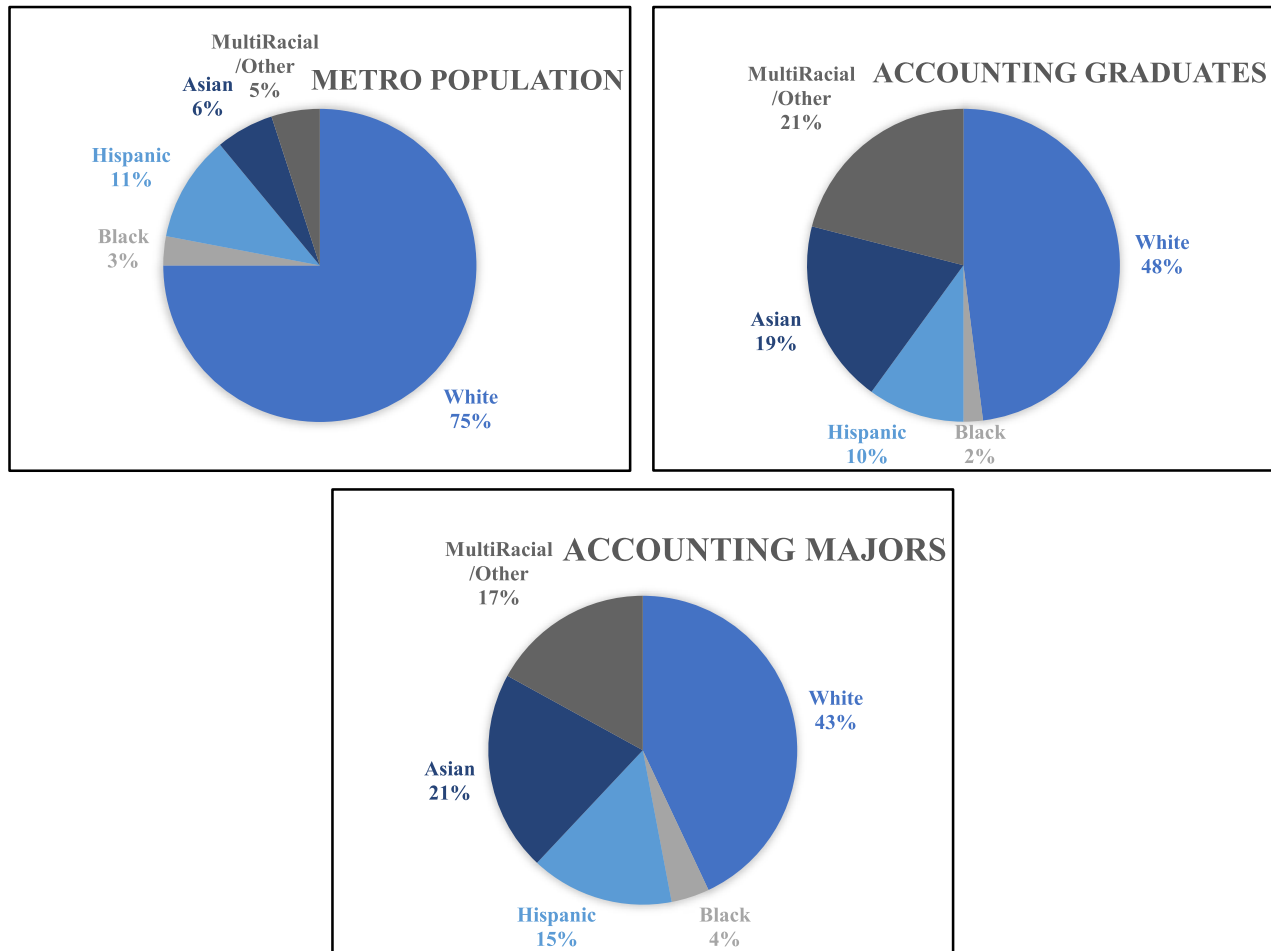
We are hoping to compile a term-level panel dataset to map courses taken by accounting students as they complete (or don’t complete) our program. We’re hoping it’s possible to get course-level enrollment data by student and by term for every accounting course in the business school. It would also be great to get as much student-level descriptive data as we can to be able to further analyze specific areas of strength and weakness, but we realize privacy concerns may be a limitation. There are some Equity Audit concepts from K–12 that we would love to apply to our program (accountants do love to audit), but doing so would require some student-level data. Hopefully, we could get at least three to five years of data for “anonymized” accounting students.

That’s just a brief intro to what we are sure will be a much larger conversation. We’re curious who would be the best person to follow-up with on a request like that. Not sure whether there is a similar school of business-level analysis that we could build off or if we would need to work at the university level to gain access to any available data. Let us know what you think, and we are happy to follow up as appropriate from there.

Thanks again to you and the rest of the deans for kickstarting this conversation. We are very excited to find additional opportunities to improve outcomes for accounting students.

As an example, [Figure 1](#) is a slide presented to our accounting advisory board in Fall 2021. We used the visualization to highlight two demographic trends within our accounting program. First, we note under-represented students make up a disproportionate percent of our accounting program relative to the metropolitan area we serve (Chart 2 versus Chart 1). Second, we note our accounting graduates are less diverse than the pool of students who declare an

FIGURE 1
Demographic Trends



(The full-color version is available online.)

accounting major (Chart 3 versus Chart 1). The partners and executives who make up our advisory board observed both trends, affirmed support for under-represented students, and committed to addressing the graduation gap.

Preliminary data analysis identified a subset of declared accounting majors who successfully completed Introductory Accounting coursework but failed to complete Intermediate Accounting. This pattern had a disproportionate impact on under-represented minority students. Therefore, we determined to make Intermediate Accounting the primary target for subsequent audit work as a key driver of retention and degree completion issues. To be very clear, at no point during our audit work did we consider lowering program standards as a potential solution. Our goal was not to ensure *every* student would succeed in Intermediate Accounting. We agree with the common practice of using Intermediate Accounting to identify students willing and able to do the work required for success as an accounting professional.⁶ However, the correlation between demographic data and measures of student performance strongly suggested the influence of unintended external factors.

To build on this example, Table 2 presents a Tableau report used within a donor grant proposal to incorporate remedial accounting education within our intermediate accounting series. It shows a clear performance gap for

⁶ There is a large body of literature related to Intermediate Accounting performance (e.g., Sargent 2013). Furthermore, there is a well-accepted idea that Intermediate Accounting should act as a “weed out” course—ensuring that only the competent students continue on toward a degree (e.g., Burnett, Xu, and Kennedy 2010). We agree that accounting degrees should remain selective but wish to scrutinize the factors that influence selection to eliminate those unrelated to future professional success.

TABLE 2
Data Shared with Donors

Panel A: DFW Data from Intermediate Accounting Pre- and Postintervention

Term	# of Sections	All Students		International		Hispanic/Lat		Asian		Black/Af Amer		White		Other	
		Total	DFW	Total	DFW	Total	DFW	Total	DFW	Total	DFW	Total	DFW	Total	DFW
201704	6	257	52	52	8	25	6	42	7	7	5	23	21	3	
201801	4	152	30	27	7	19	5	19	2	6	2	13	13	1	
201802	3	93	25	11	4	9	3	12	2	1	—	15	7	1	
201803	1	36	1	8	—	3	—	4	—	1	—	1	2	—	
201804	6	282	54	36	1	39	13	31	7	7	5	20	23	8	
201901	4	177	34	17	3	30	5	27	6	8	3	13	18	4	
201902	2	94	26	7	1	19	8	14	3	2	1	9	10	4	
201903	1	19	1	4	—	3	—	1	—	—	—	—	4	1	
201904	6	263	40	23	8	41	7	48	4	6	3	13	29	5	
202001	4	149	15	16	3	29	—	23	—	7	—	9	11	3	
202002	2	63	7	8	2	7	2	11	—	3	1	2	13	—	
202003	1	23	2	6	1	4	1	3	—	1	—	—	2	—	
202004	6	229	43	11	2	38	14	33	7	11	3	14	24	3	
202101	3	131	19	10	2	29	6	19	1	4	1	9	6	—	
202102	2	63	13	5	1	9	3	9	2	3	—	5	6	2	
Total		2,031	362	241	43	304	73	296	41	67	24	146	189	35	
DFW %—Pre-ALEKS			18	10	18	24	24	14	14	36	36	16	19	19	
202104	5	197	16	10	2	39	4	26	1	6	—	7	15	2	
202201	2	104	17	3	1	21	5	14	3	6	1	5	10	2	
202204	5	190	18	13	—	33	4	37	4	7	3	6	12	1	
202301	3	122	31	6	—	27	8	19	5	5	2	12	13	4	
Total		613	82	32	3	120	21	96	13	24	6	30	50	9	
DFW %—Post-ALEKS			13	9	9	17	17	14	14	25	25	10	18	18	
% Δ in DFW Post-ALEKS			-25	-47	-47	-27	-27	-2	-2	-30	-30	-34	-3	-3	

(continued on next page)

TABLE 2 (continued)

Panel B: Grade Distributions Intermediate Accounting (Fall 2014–Winter 2021)

Grade Distribution for Intermediate Accounting

Course	Reported Race	A (%)	A- (%)	B+ (%)	B (%)	B- (%)	C+, C, C- (%)	D+, D, D- (%)	F (%)	W (%)
Int 1	Asian	26.9	8.5	6.4	14.0	6.6	22.3	8.1	2.0	5.3
	White	4.1	9.9	5.9	17.1	8.4	17.3	690.0	3.5	7.0
	Multiple Ethnic/Race	21.5	3.7	8.9	10.4	8.2	25.2	9.6	3.7	8.9
	Pacific islander	22.2	0.0	11.1	11.1	0.0	22.2	22.2	11.1	0.0
	Native American	16.7	3.3	10.0	23.3	10.0	23.3	10.0	3.3	0.0
	Hispanic/Latino	15.0	6.1	6.6	14.0	7.1	27.2	11.5	5.9	6.6
	Black	4.4	6.6	3.3	19.8	5.5	24.2	13.2	6.6	16.5
	Asian	23.4	7.6	8.2	14.3	7.3	21.4	9.7	2.3	5.9
	White	27.2	10.2	9.5	14.5	8.3	19.4	5.4	1.7	3.9
	Multiple Ethnic/Race	25.6	8.9	5.6	14.4	8.9	16.7	10.0	6.8	3.3
Int 2	Pacific islander	14.3	14.3	0.0	0.0	0.0	42.9	14.3	14.3	0.0
	Native American	23.1	11.5	11.5	3.9	11.5	26.9	11.5	0.0	0.0
	Hispanic/Latino	18.4	7.1	7.5	13.4	10.0	27.2	8.0	4.6	3.8
	Black	3.7	19.2	10.6	8.5	6.4	25.5	8.5	2.1	12.8
	Asian	37.3	13.1	10.8	16.5	8.1	11.2	1.2	0.4	1.5
	White	30.5	11.2	9.7	21.0	7.4	12.0	1.6	2.4	4.0
	Multiple Ethnic/Race	21.5	9.2	9.2	20.0	10.8	18.5	6.2	1.5	3.1
	Pacific islander	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Native American	28.8	5.6	0.0	11.1	16.7	22.2	5.6	0.0	0.0
	Hispanic/Latino	26.4	10.7	8.4	21.4	8.4	16.9	2.8	2.3	2.8
Int 3	Black	12.5	12.5	3.1	28.1	15.6	18.8	6.3	3.1	0.0

Panel C: Total Grades Issued and Retaken (Fall 2014–Winter 2021)

Total Grades Issued

Reported Race	Int 1		Int 2		Int 3	
	Total	Retake	Total	Retake	Total	Retake
Asian	457	46	342	48	260	6
White	1,449	171	965	74	803	40
Multiple Ethnic/Race	135	18	90	11	65	5
Pacific islander	9	1	7	2	4	—
Native American	30	2	26	3	18	1
Hispanic/Latino	393	59	239	29	178	8
Black	91	26	47	9	32	2

under-represented students in Intermediate Accounting I and II. Native, Hispanic/Latino, and Black/African American students are less likely to receive grades of “A,” “A–,” and “B+” and more likely to receive grades of “C,” D, and F. The analysis of course data identified a clear performance gap, but it could not provide insight into why under-represented students struggled to perform up to potential.

Discussions between faculty, administration, and industry partners on our advisory board around preliminary analysis raised questions about external influences we could not answer with central campus data. How many hours per week did our students work? Were they the primary caregiver for a small child or elder? Were they first-generation college students? Were they food or housing insecure? To address identified data gaps, we added questions included as [Exhibit 2](#) to an exit survey administered in our program capstone course. Because these data were collected anonymously and outside university systems, we cannot tie these factors to performance in specific courses. However, by including questions on race and ethnicity, we identified several general trends. A plurality of students surveyed work at least half time. Those students are disproportionately primary caregivers, first-generation college students, and under-represented minorities. Identified trends were even more pronounced for students who work full time.

EXHIBIT 2

Selected Questions from Student Program Exit Survey

- (1) On average, how many hours per week you were employed while taking your upper division Accounting classes?
 - None
 - <20 per week
 - 20–39 per week
 - 40+ per week
 - (2) Were you a primary caregiver for another family member while taking your upper division Accounting classes?
 - Yes
 - No
 - (3) Do you describe yourself as a first-generation college student?
 - Yes
 - No
 - (4) With which gender do you identify?
 - Male
 - Female
 - Nonbinary/third gender/self-describe
 - Prefer not to answer
 - (5) What is your age?
 - 18–25
 - 26–35
 - 36–41
 - 42 or over
 - Prefer not to answer
 - (6) With which race and/or ethnicity do you most closely identify? (Select all that apply)
 - Native American or Alaska Native
 - Pacific Islander
 - Asian American or Asian
 - Middle Eastern
 - Hispanic or Latino
 - Black or African American
 - White or Caucasian
 - Prefer not to answer
 - (7) What is your nationality?
 - U.S. citizen or permanent resident
 - Undocumented U.S. resident
 - International student from (please specify)
 - Prefer not to answer
-

The combined impact of central campus data and supplemental surveys identified a set of inter-related challenges faced by under-represented minority students as they begin Intermediate Accounting. These students disproportionately have work and family responsibilities that minimize time available for additional coursework. They are disproportionately first-generation college students and may not have a network to help navigate unexpected disruptions during an academic term. Furthermore, they disproportionately have a two-or-more-year gap between Introductory Financial Accounting and Intermediate Accounting and likely require remedial review to succeed. To better serve all of our students, we needed to find solutions that would maximize student success subject to this unchangeable set of external constraints.

Step 3: Disaggregate Data and Identify Root Causes

To begin applying the expanded equity audit model discussed above, we first attempted to assess any drivers of inequity related to *Instructor Quality Inequity*. Turnover can be significant within accounting programs that rely upon adjunct or graduate student instructors. Instruction can significantly vary for programs, with a large percentage of transfer students taking Introductory Accounting coursework at a different university or community college. The point of an equity audit is not to criticize the effectiveness of adjuncts, graduate students, community college instructors, and early career assistant professors. Courses with significant instructor turnover or variance in instructor quality highlight the relationship between inconsistent teaching and inequitable outcomes. Our review of instructor quality within Intermediate Accounting did not identify this as a significant driver of inequitable achievement.

Our Intermediate Accounting series instructors are long tenured, maintain sufficient academic and professional knowledge, and share a strong commitment to success for disadvantaged students. However, conversations with Intermediate Accounting instructors identified inequity recalling prerequisite accounting knowledge necessary to succeed in a fast-paced and challenging course.⁷ Students who start the term at a disadvantage often struggle to catch up. At best, this yields an assigned grade that under-represents a student's ability to succeed as an accounting professional. At worst, it leads to a drop, withdraw, or failed grade for a student who could complete the course with sufficient support or the removal of unnecessary barriers. Our Intermediate Accounting data review showed that both outcomes disproportionately impacted the success of under-represented minority students in our program.

A significant percentage of our students take their Introductory Accounting coursework at a community college. Often, these students experience a significant gap between introductory coursework and Intermediate Accounting. For example, our registration data indicate that 26 percent of the accounting majors in our first Intermediate Accounting course had at least a two-to-five-year gap since taking Introduction to Financial Accounting. We partner with local community colleges and enjoy a good working relationship with their faculty. However, we cannot influence the timing of when our students take those prerequisite courses at the community college level. To ensure that all of our students are afforded the opportunity to succeed, we needed to identify opportunities to enact compensating course and program-level practices.

Further evidence of *Course-Level Inequity* is observed through disproportionate grade distributions, DFWs, and repeated enrollments. The data gathered as part of our equity audit showed students with a two-to-five-year gap between Introduction to Financial Accounting and Intermediate Accounting were more likely to DFW and disproportionately under-represented minorities. Our faculty is firmly committed to student success and equitable outcomes. Results from our Intermediate Accounting series raised uncomfortable questions. Do we believe this is an accurate assessment of short-term student performance? Do we believe this is an accurate assessment of long-term student potential? Do we believe students who left our program due to poor performance could not have a successful accounting career? The data obtained through an equity audit help highlight these gaps in ways that are difficult to ignore, ascribe to external forces, or write off as "just the way things work."

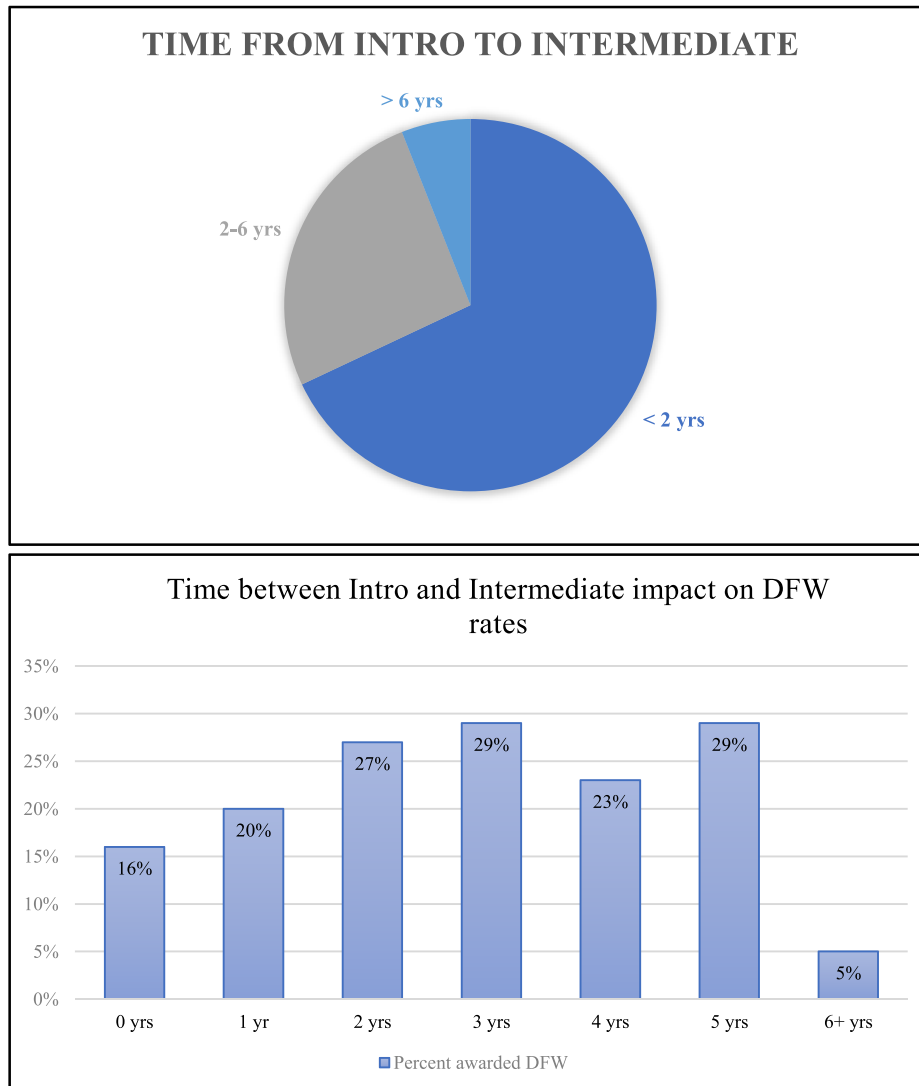
As an example, Figure 2 includes two slides presented to our accounting advisory board in fall 2021. The first slide highlights the 26 percent of our accounting students who have a two-to-five-year gap between their grade in Introductory Accounting and their grade in Intermediate Accounting I. The second slide shows these students are more likely to receive a D, F, or withdraw. Although these students are disproportionately under-represented minorities, the two-to-five-year-gap had an impact on all demographic groups tracked by our university.

A final driver of disparate student achievement data comes from *Program-Level Inequity*. This concerns all the resources, meetings, and activities that accounting programs make available to students as they seek to start a career. An overarching theme of the equity audit literature is that academic programs often do not know whether students use supplemental resources equitably. An equity audit prompts collecting relevant data and asking difficult questions about observed inequities.

Student achievement data for professional development activities may require more work to compile. Possible proxies include tracking student organization membership and attendance, resume review and mock interview participation,

⁷ In our institution, Intermediate Accounting is a series of three, four-credit courses taken in three consecutive quarters.

FIGURE 2
Slides Presented to Accounting Advisory Board in the Fall of 2021



(The full-color version is available online.)

internship placement data, or CPA exam review participation. Inequity in professional outcomes is evidence of opportunities to promote student achievement at the program level. Change requires understanding why students use available resources differently or gain differential benefits from participation. Root causes will likely differ by program. After reviewing professional achievement data, examining current program-level practices, and discussing issues with current and former students, our program identified two primary drivers of program-level inequity: access to extracurricular activities and professional development opportunities.

Step Four: Address Identified Gaps

The results of a disaggregated, program-level, quantitative, and qualitative data analysis can be daunting. Under-represented students are disproportionately likely to (1) work more than 20 hours per week during an academic term, (2) have primary childcare responsibilities, (3) be the first person in their family to attend college, (4) experience delays or disruptions during their academic program, (5) receive a DFW in Intermediate Accounting, and (6) declare an accounting major but fail to complete an accounting degree. A key benefit of equity audit practice is refocusing away from

aspects of student performance you cannot control toward those you can. We cannot remove external demands on our students or provide them additional hours in a week. However, we can address instructor-level, course-level, and program-level practices that might disproportionately impact students who face identified constraints.

Our equity audit results suggested that student achievement in Intermediate Accounting reflects a student's ability and drive to succeed *and* foundational knowledge from prerequisite coursework. Grades are commonly thought to proxy the first concept (e.g., Schuman, Walsh, Olson, and Etheridge 1985; Beatson, Berg, Smith, and Smith-Han 2019), driven by a combination of student ability and effort. Grades that measure foundational knowledge can reflect systemic bias, especially in programs that serve nontraditional students.

We cannot control the nature, quality, and timing of our students' introductory coursework. However, we can control how accounting fundamentals are reviewed and used in our courses. To address identified gaps, we designed a two-week review for beginning the Intermediate Accounting series that would provide an adaptive review of accounting fundamentals customized to each student's level of understanding.⁸

With data obtained through our equity audit, we approached multiple stakeholders eager to fund more equitable student success efforts. This enabled additional resources to be purchased at no cost to students. Results from our initial equity audit efforts reduced the DFW rate in the first term of Intermediate Accounting by 25 percent and the first-week drop rate in the course by 30 percent. These efforts improved outcomes for all student groups. However, they disproportionately positively impacted the success of Hispanic/Latino, Black/African American, and first-generation college students (DFW down 27 percent, 18 percent, and 8 percent, respectively).

Table 2 presents an update report presented to donors and our accounting advisory board in spring 2023. The report notes the post-ALEKS adoption decline of DFWs in Intermediate Accounting I. Benefits from ALEKS accrue to all demographic groups monitored by our university, with large gains for under-represented students. Supplemental analysis notes no change in student success within Intermediate II. Discussion of these reports centered around our desire to maintain high standards within our courses and use ALEKS as an onramp to success. Many challenges with disproportionate impact will have broad impact across all student groups. Our experience suggests a focus on remediating inequitable outcomes is not zero sum and can benefit all students.

Another key driver of inequitable outcomes did not emerge as a primary focus for our department until the social disruptions caused by the COVID-19 pandemic. As is common in accounting programs, many course syllabi within our program contained steep penalties for late work or refused to accept late work after the assigned due date. The rationale for these policies is a need to foster professionalism. It is typically argued that late work is not tolerated in the "real world," so we should set similar expectations for our students as they progress through our program.

Students who work, have family responsibilities, or have other obligations outside an academic program are more likely to experience unexpected schedule disruptions. Fear of being seen as less capable may deter under-represented students from reaching out for help or requesting an extension, even when extensions are offered to others (e.g., Gopalan and Brady 2020). An equity audit caused us to think about the broader impact of our classroom policies and procedures. Does a student who submits a late assignment because they were held late at work need a lesson in the "real world"? Does a working parent who submits a partially complete project due to constraints at home need a lesson in professionalism? These questions prompted rethinking our classroom policies to emphasize professional communication over arbitrary deadlines. It is clearly communicated to students that we expect each student to complete every assignment, project, and exam to the best of their ability. If a student cannot do so by a stated deadline, we stress professional communication and constructive resolution over a uniform penalty.

We sought to increase program-level accessibility by designing supplemental activities with under-represented students in mind. If students have rigid external commitments to work or family, schedule events flexibly to increase the likelihood of attendance. If students feel uncomfortable attending because of representation or language issues, schedule events that tackle these issues head-on. We began to address these issues for our program by ensuring an online option for attendance with a recording available to all students unable to meet at the prescribed time. We also increased our efforts to incorporate under-represented minority professionals and promote this participation widely to students.⁹ With these changes in place, we hope to remove barriers preventing students from accessing professional development activities and reaping the downstream job market benefits. We also model a profession that is open and accessible to students

⁸ We recognize the excellent work done related to bridge courses in prior literature (e.g. Brockbank, Sisneros, Spencer, and Stroud 2023). For our program, we used the ALEKS software developed by McGraw-Hill to provide an adaptive review customized to each student's level of understanding. For more information about the ALEKS software, see https://www.aleks.com/about_aleks/

⁹ The significant impact of representation is a common finding in education literature. For those seeking more, we have identified research related to when students and teachers share a racial background (Egalite, Kisida, and Winters 2015), representations of gender and race (Severiens and ten Dam 2012; Pelzer, Booker, Pence, and Brown 2023), and how representation can impact persistence (Ashford-Hanserd, Daniel, García, and Idema 2020).

from different racial, gendered, sexually oriented, cultural, ability, and socioeconomic backgrounds and promote specific paths that these students can pursue where they will feel comfortable and supported.

Moving program-level professional resources into the classroom is a challenge. Topics that need to be covered in an accounting curriculum continue to expand yearly. Ultimately, we have found the best way to ensure equitable participation in a few key professional development activities was to require them of all students. We required a resume review for all accounting students as part of our Intermediate Accounting series, ensuring every student knows the importance of internship experience and can construct a professional application.¹⁰ We began a program-wide initiative to incorporate external professionals into each course within the accounting curriculum and incorporate under-represented minority speakers when possible. Time constraints prevent the incorporation of all program-level activities into the classroom. Still, focusing on a few key events helps ensure a base level of student participation and encourages further extracurricular involvement. A final opportunity to democratize access involved creating an advising website with information about dress codes, how-tos (e.g., write a cover letter, network effectively, etc.), and links to set appointments with career-facing staff or watch previously recorded presentations.

These are just a few examples of ways equity audit principles prompted changes to address program-level programmatic inequity. Again, we have not finished examining policies and procedures across our accounting program and have not remediated all disparate outcomes. However, the changes described above allow us to improve outcomes for all students and collect the data necessary to drive future improvements.

IV. NO RIGHT ANSWERS: CONCLUDING REMARKS, CONTINUED EXPERIMENTATION, AND SUGGESTIONS FOR FUTURE RESEARCH

Part of the power of our relatively unstructured model of equity audits is that practitioners have to make decisions about exactly how to do them based on local contextual factors—availability of data, school climate and culture, the knowledge base of participants, and so forth. There is no spreadsheet or checklist that people could simply fill in that would satisfy the intent of this process. The power of this form of equity auditing is in the process itself—the process of making choices about how to proceed, of gathering the data, of discussing the presentation of results, of grappling with the meaning of what is revealed by the audit, and of planning for change. (Skrla et al. 2009, 25)

The quote above comes from a text summarizing equity audit research and methods for K–12 principals and administrators. We provide it in full to emphasize several points about what this paper, and equity auditing generally, seeks to accomplish. Our application of equity audit concepts continues to evolve, and outcomes from related interventions will take multiple years to observe. Equity audits are not a solution to inequity. They are a tool used to uncover problems and motivate commitment to solving them.

Central Administration recognized our approach, efforts, and results and requested similar analyses for different programs at the school of business and university level. This basic approach to equitable student performance remains the same, but issues identified and suggested solutions differ in each case. The outcomes from an equity audit will likely differ by university, faculty preference, student population, available resources, and external stakeholder concerns. This is a limitation of the presented example case and an opportunity for additional research already prompted by others (see Pasewark 2020 and the other essays included in the November 2020 issue of *Issues in Accounting Education*). Future studies can probe more deeply into achievement gaps in specific settings and provide examples of remediation.

A key takeaway from the equity audit practice is that many faculty and administrators are unaware of inequity within their academic programs. This was true at our university and is likely valid for much of the academy. The strategy presented above describes how we gained access to student achievement data and used them to drive change and improve student success in our accounting program. However, privacy concerns around student data limit our ability to access and disseminate results through academic research. Many university programs also likely have significant data gaps, particularly around extracurricular participation, career services, job market outcomes, and professional licensure (Albring and Elder 2020; Kremin and Pasewark 2020). Future academic literature can examine specific data limitations and propose remediation methods. Compiling anonymized datasets for academic research around the determinants and consequences of various measurements for student achievement could also yield significant benefits.

¹⁰ We utilize the machine-learning-based resume review platform VMock to help manage the workload of resume review for all students in our program. See <https://www.vmock.com> for additional information. Funding for this program is provided through external donors committed to increasing equity in job market outcomes for all students.

A final point that emerges from the experience of K–12 educators is the need for financial resources to address educational inequity. A successful equity audit will likely require shifts in achievement data collected, how teaching resources are utilized, instructional practices within specific courses, and the administration of program-wide support. Coordination must span all aspects of an accounting program, from recruiting and prerequisites to job placement. Change on this level has the potential to be disruptive and controversial. Similar to internal control, securing public buy-in from key stakeholders is important.

Success will likely require a culture of coordinated support from faculty members, department administration, school administration, central campus, and external advisors or donors. Data can help identify achievement gaps, but remediation often requires additional funding for additional staff, software, and technology. The interventions described herein feature multiple instances where external financial support was necessary to fund software and career services staff. Many academic programs serving under-represented minority and first-generation college students face budget restrictions and constrained donor networks. Effective fundraising is necessary for any educational reform seeking to close achievement gaps. Future studies should engage around fundraising best practices and help disseminate validated methods for broad use (Albring and Elder 2020).

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